



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/508,794	09/21/2004	Pietro Perlo	Q82894	3906
23373 7590 06/13/2007 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			EXAMINER NG, EUNICE	
			ART UNIT 2626	PAPER NUMBER
			MAIL DATE 06/13/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/508,794	<b>Applicant(s)</b> PERLO, PIETRO	
	<b>Examiner</b> Eunice Ng	<b>Art Unit</b> 2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 21 September 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Inventorship*

1. Application No. 10/691,527 lists inventor "Piero Perlo," which appears to be the same inventor listed in Application No. 10/508,794 as "Pietro Perlo," as evidenced by the signatures in the corresponding Oath or Declarations. The examiner has interpreted these two inventors to be the same. Appropriate correction is required.

### *Double Patenting*

2. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

Claims 1-10 of this application conflict with claims 1-7 of Application No. 10/691,527. 37 CFR 1.78(b) provides that when two or more applications filed by the same applicant contain conflicting claims, elimination of such claims from all but one application may be required in the absence of good and sufficient reason for their retention during pendency in more than one application. Applicant is required to either cancel the conflicting claims from all but one application or maintain a clear line of demarcation between the applications. See MPEP § 822.

Claims 1-10 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-7 of copending Application No. 10/691,527. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

Claims 1-10 are directed to the same invention as that of claims 1-7 of commonly assigned Application No. 10/691,527. The issue of priority under 35 U.S.C. 102(g) and possibly 35 U.S.C. 102(f) of this single invention must be resolved.

Since the U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP Chapter 2300), the assignee is required to state which entity is the prior inventor of the conflicting subject matter. A terminal disclaimer has no effect in this situation since the basis for refusing more than one patent is priority of invention under 35 U.S.C. 102(f) or (g) and not an extension of monopoly.

Failure to comply with this requirement will result in a holding of abandonment of this application.

### *Claim Objections*

3. Claim 2-9 are objected to because of the following informalities: In the first line of each claim, the phrase "characterised in that" should be changed to --wherein--.

4. Claims 1, 5 and 10 are objected to because of the following informalities: The phrase "operative...to" is intended use which itself has not been recited. The examiner has interpreted:

In claim 1, lines 7, 10 and 18, "operatively associated to" or "operatively connected to" to be --associated with-- or --connected to--, respectively.

In claim 5, lines 1-2, "it is operative to develop with the time" to be --developing in time--.

In claim 10, lines 10-11, “are operative for receiving” to be --receives-- and “sending” to be --sends--. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The last 3 lines of the claim recite phrases that are incomprehensible. For example, “including the vocalizations it association with loop” and “hearing by the animal of the generates.” The examiner has interpreted these limitations to be claiming the same or similar limitations recited in claim 5. Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeVito (US Patent 6,254,536) in view of Moore (US Patent 5,749,324), Plotkin (US Patent 6,178,923) and Naritoku et al., hereinafter “Naritoku” (US Patent 6,556,868).

Regarding claim 1, DeVito teaches a vocal connection system between humans and animals, particularly domestic animals, comprising: a matrix of sensors (2) (Fig. 19, elements 123-125; col. 2, line 34, “one or more physiological sensors”) to be positioned on the animal, in particular on its head and/or its neck, for converting stimuli detected on the body of the animal into first electric signals (4) which are indicative of a status of the animal, in terms of feelings, events, actions or behaviors (col.1, ll. 27-30, teaches “electrical measurements of physiological parameters, such as brainwaves (EEG) from an animal”; col. 10, ll. 21-28, “table of baseline values for the control parameters...animal...interacting with the system...baseline values may then be used for comparison with each parameter set calculated from each epoch...results of this comparison allows particular states of mind, emotions, or other responses to be identified and converted to command code signals to control a given system”; col. 5, ll. 14-16, “Hook and loop fasteners allow the headband to be snugly fastened around the subject’s head”).

DeVito does not explicitly teach sensor means designed to be positioned on the neck of the animal. However, this feature would have been obvious given the teaching elements of Moore which teaches, “stimulus-generating, device is housed in a collar placed around the body of an animal, preferably the neck” (col. 4, ll. 30-32). Since dogs are accustomed to and commonly wear collars, it would have been obvious given the teaching elements of Moore to position said sensor means on the collar. Moore also teaches, “modifying animal behavior by sound recognition or activation means coupled to meaningful responsive action” (col. 4, ll. 19-23) and “stimulus-generating means...may be aversive or non-aversive in nature...sound producing device...coupled to a recording, or voice stimulation chip, which recording or chip relays verbal commands to the animal” (col. 4, ll. 48-56).

DeVito and Moore do not, but Plotkin teaches processing means (3) [associated with] the matrix of sensors (2), including memory means (5) in which human vocal messages are recorded corresponding to various status of the animal (col. 2, line 67 – col. 3, line 4, “control circuit and memory...for attachment to collar along with speaker”; col. 4, ll. 12-14, “messages stored in memory comprise of one or more spoken words and may be in any language, accent or voice type [human voice messages]”), a loudspeaker (6) [connected to] the processing means (3), said processing means (3) being provided for receiving the first signals (4) coming from the sensors (2) and for activating said loudspeaker (6) in order to emit a human vocal message selected in said memory means (5), depending upon the received first signals (4), thus simulating the possibility of speaking for the animal (Fig. 2, speaker 30 is positioned near the head of the dog, which would make the output appear to come from the animal), the system further comprising vocal recognition means (8) able to send second signals (10) to the processing means (3), which are representative of the contents of vocal messages (9) (voice recognition would necessarily need to be performed in order to convert the voice messages into signals).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the teaching elements of Plotkin with DeVito and Moore because making human words and phrases appear to come from the animal provides an amusing affect and further can be utilized for education purposes, as indicated by Plotkin (col. 4, ll. 35-52).

DeVito, Moore and Plotkin do not, but Naritoku suggests, stimuli generating means (11) [associated with] the body of the animal, in particular to its head and/or neck, which receive said second signals (10) from the processing means (3) and send corresponding stimuli to the animal brain, so as to induce the animal to take determined actions or perceive determined feelings

Art Unit: 2626

(abstract, Naritoku teaches improving learning in animals by nerve stimulation by applying to the animal's nerve an electrical stimulation signal [pulses corresponding to voice messages] having parameter values effective in modulating the electrical activity of the nerve in a manner so as to modulate the activity of preselected portions of the brain; col. 9, ll. 62-64, "retention can be...enhanced by experimental treatments such as electrical brain stimulation").

It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the teaching elements of DeVito, Moore and Plotkin with Naritoku because Naritoku teaches this method of electrical stimulation of the nerve provides improved memory or learning which can be observed soon after exposing the animal subject to the learning experience, as indicated by Naritoku (col. 18, ll. 37-53; abstract).

Regarding claim 2, Plotkin nor DeVito, Moore, or Naritoku, explicitly teach [wherein] said processing means (3) are programmed to provide an interactive self-learning method, where the user (7) can correct or confirm the vocal messages emitted by said loudspeaker (6), by his vocal messages (9). However, the Examiner takes Official Notice that it is old and well known in the art of speech recognition control systems to enable the user to correct or acknowledge the correctness of a speech recognition result. It would be obvious for one of ordinary skill in the art at the time the invention was made to enable such correction or acknowledgement of the user's voice messages because speech recognition systems are not always accurate and do not always produce the desired/correct recognition result.



Regarding claim 3, DeVito does not explicitly teach [wherein] the matrix of sensors (2), the processing means (3), the loudspeaker (6), the vocal recognition means (8) and the stimuli generating means (11) are integrated in a collar (C). However, this feature would have been obvious given the teaching elements of Moore which teaches, “stimulus-generating, device is housed in a collar placed around the body of an animal, preferably the neck” (col. 4, ll. 30-32). Since dogs are accustomed to and commonly wear collars, it would have been obvious for one of ordinary skill in the art given the teaching elements of Moore to integrate said means into a collar, without the dog being irritated by unaccustomed attachments elsewhere.

Regarding claim 4, Naritoku in combination with Plotkin suggests [wherein] the vocal recognition means (8) are used as supplementary means in addition to said sensors (2) in order to improve the interpretation of the status of the animal as detected by said sensors (2) (abstract, Naritoku teaches improving learning in animals by nerve stimulation by applying to the animal’s nerve an electrical stimulation signal [pulses corresponding to voice messages – vocal recognition] having parameter values effective in modulating the electrical activity of the nerve in a manner so as to modulate the activity of preselected portions of the brain; col. 9, ll. 62-64, “retention can be...enhanced by experimental treatments such as electrical brain stimulation”).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the teaching elements of DeVito and Moore with Plotkin and Naritoku because Naritoku teaches in addition to the vocal recognition, this method of electrical stimulation of the nerve provides improved memory or learning which can be observed soon after exposing the animal subject to the learning experience, as indicated by Naritoku (col. 18, ll. 37-53; abstract).

Regarding claim 5, Naritoku in combination with Plotkin suggests [wherein] [developing in time] a language proper of the animal, by means of an evolutive process, through the hearing by the animal of the vocalization which the animal generates in association with its reactions to the environment (abstract, Naritoku teaches improving learning in animals by nerve stimulation by applying to the animal's nerve an electrical stimulation signal [pulses corresponding to voice messages] having parameter values effective in modulating the electrical activity of the nerve in a manner so as to modulate the activity of preselected portions of the brain; col. 9, ll. 62-64, "retention can be...enhanced by experimental treatments such as electrical brain stimulation"; the animal would necessarily hear its own vocalizations with its own ears).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the teaching elements of DeVito and Moore with Plotkin and Naritoku because Naritoku teaches in addition to the animal hearing its own vocalizations with its own ears, this method of electrical stimulation of the nerve provides improved memory or learning which can be observed soon after exposing the animal subject to the learning experience, as indicated by Naritoku (col. 18, ll. 37-53; abstract).

Regarding claim 6, DeVito teaches [wherein] sensors (2) are provided to detect stimuli of different origin coming from the animal (abstract, DeVito teaches "bioelectrical signals such as (EEG [electroencephalographic] and EMG [electromyographic]) for the control of systems"; EEG type sensors detect electric activity in the animal's brain while EMG sensors detect electric activity in the animals muscles and/or nerves (stimuli of different origin)).

Regarding claim 7, DeVito teaches [wherein] there are provided first electrodes to detect the electric activity of the animal brain and second electrodes to detect the electric activity of muscles and/or nerves of the animal (abstract, DeVito teaches “bioelectrical signals such as (EEG [electroencephalographic] and EMG [electromyographic]) for the control of systems”; EEG type sensors detect electric activity in the animal’s brain while EMG sensors detect electric activity in the animals muscles and/or nerves).

Regarding claim 8, DeVito teaches [wherein] at least first and second sensors (2) are positioned just below respective ears of the animal, or in any case close to the occipital cortex of the animal, and further sensors (2) are arranged around the neck of the animal (col. 5, ll. 14-16, “Hook and loop fasteners allow the headband to be snugly fastened around the subject’s head”). DeVito does not explicitly teach sensor means designed to be positioned on the neck of the animal. However, this feature would have been obvious given the teaching elements of Moore which teaches, “stimulus-generating, device is housed in a collar placed around the body of an animal, preferably the neck” (col. 4, ll. 30-32). Since dogs are accustomed to and commonly wear collars, it would have been obvious given the teaching elements of Moore to position said sensor means on the collar. Moore also teaches, “modifying animal behavior by sound recognition or activation means coupled to meaningful responsive action” (col. 4, ll. 19-23) and “stimulus-generating means...may be aversive or non-aversive in nature...sound producing device...coupled to a recording, or voice stimulation chip, which recording or chip relays verbal commands to the animal” (col. 4, ll. 48-56).

Regarding claim 9, DeVito teaches [wherein] a neural network control system is implemented in said processing means (3) (abstract, DeVito teaches “bioelectrical signals such as (EEG [electroencephalographic] and EMG [electromyographic]) for the control of systems”).

Regarding claim 10, DeVito teaches a method for allowing vocal connection between humans and animals, particularly domestic animals, comprising the following steps:

i) stimuli which are indicative of a status of an animal, in terms of feelings, events, actions, thoughts, wishes or behaviors, are detected on the body of the animal; ii) the detected stimuli are converted into first 10 electric signals (4), which are sent to processing means (3) (col.1, ll. 27-30, teaches “electrical measurements of physiological parameters, such as brainwaves (EEG) from an animal”; col. 10, ll. 21-28, “table of baseline values for the control parameters...animal... interacting with the system...baseline values may then be used for comparison with each parameter set calculated from each epoch...results of this comparison allows particular states of mind, emotions, or other responses to be identified and converted to command code signals to control a given system”);

DeVito and Moore do not, but Plotkin teaches iii) the processing means (3) selects a stored human-type vocal message corresponding to received first electric signals (col. 2, line 67 – col. 3, line 4, “control circuit and memory...for attachment to collar along with speaker”; col. 4, ll. 12-14, “messages stored in memory comprise of one or more spoken words and may be in any language, accent or voice type [human voice messages]”) (4) and activates as a consequence a loudspeaker (6) for emitting a selected human-type vocal message, thus simulating the possibility of speaking for the animal (Fig. 2, speaker 30 is positioned near the head of the dog, which would make the

output appear to come from the animal); iv) vocal recognition means (8) [receives] human-type vocal messages (9) and [sends] respective second electric signals (10) to the processing means (3) (voice recognition would necessarily need to be performed in order to convert the voice messages into signals).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the teaching elements of Plotkin with DeVito and Moore because making human words and phrases appear to come from the animal provides an amusing affect and further can be utilized for education purposes, as indicated by Plotkin (col. 4, ll. 35-52).

DeVito, Moore and Plotkin do not, but Naritoku suggests v) the processing means (3) generates, in function of the type of the received second electric signals, stimuli (11) which are sent to the brain of the animal, so as to induce the latter to take determined actions or perceive determined feelings (abstract, Naritoku teaches improving learning in animals by nerve stimulation by applying to the animal's nerve an electrical stimulation signal [pulses corresponding to voice messages] having parameter values effective in modulating the electrical activity of the nerve in a manner so as to modulate the activity of preselected portions of the brain; col. 9, ll. 62-64, "retention can be...enhanced by experimental treatments such as electrical brain stimulation").

It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the teaching elements of DeVito, Moore and Plotkin with Naritoku because Naritoku teaches this method of electrical stimulation of the nerve provides improved memory or learning which can be observed soon after exposing the animal subject to the learning experience, as indicated by Naritoku (col. 18, ll. 37-53; abstract).

Naritoku in combination with Plotkin suggests whereby the animal is brought to develop its own language in the time with an evolutive process, through the hearing by the animal of the vocalization which the animal generates in association with its reactions to the environment (abstract, Naritoku teaches improving learning in animals by nerve stimulation by applying to the animal's nerve an electrical stimulation signal [pulses corresponding to voice messages] having parameter values effective in modulating the electrical activity of the nerve in a manner so as to modulate the activity of preselected portions of the brain; col. 9, ll. 62-64, "retention can be...enhanced by experimental treatments such as electrical brain stimulation"; the animal would necessarily hear its own vocalizations with its own ears).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the teaching elements of DeVito and Moore with Plotkin and Naritoku because Naritoku teaches in addition to the animal hearing its own vocalizations with its own ears, this method of electrical stimulation of the nerve provides improved memory or learning which can be observed soon after exposing the animal subject to the learning experience, as indicated by Naritoku (col. 18, ll. 37-53; abstract).

### *Conclusion*

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 2002/0152970 (Takeda), method and device for communication with animal.

US 5,790,033 (Yamamoto), animal's intention translation method.

US6,496,115 (Arakawa), system and method for analyzing baby cries.

US 6,761,131 (Suzuki), apparatus and method for determining dog's emotions by vocal analysis of barking sounds.

US 5,392,735 (Xitco, Jr. et al.), marine mammal communication device.

US 4,967,696 (Tobias), dog collar with a receiver unit which, when actuated, the receiver unit emits a sound audible to the dog, thereby allowing an individual to communicate with his dog.

JP 09056290 A (Tomobe), belt for a pet generating a voice by reacting to a sound.

JP 10207592 A (Onishi), intention transmission device utilizing myoelectric, electrooculographic, and electroencephalographic living body signals.

GB 2350263 A (Leighton), providing an alert of an abnormal medical condition wherein an animate object such as an human or animal is monitored, for example by body temperature, blood pressure, pulse rate, respiration, and any deviations from a threshold which cause a stored message to be transmitted.

EP 0730261 A2 (Isao), an interactive speech recognition device that recognizes speech and produces sounds or actions in response to the recognition result.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eunice Ng whose telephone number is 571-272-2854. The examiner can normally be reached on Monday through Friday, 8:30 a.m. - 5:00 p.m.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on 571-272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2626

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EN

6/1/07



**DAVID HUDSPETH**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2600**